



PATENT

Brief

#9

4/16/03

B. Loss

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Joseph H. Hoffman et al.

Serial No.: 09/881,361

Filed: June 13, 2001

For: GOLF CLUB AND METHOD FOR
MAKING IT

Examiner: Stephen Luther Blau

Group Art Unit: 3711

April 4, 2003

APPELLANTS' BRIEF

Honorable Commissioner
of Patents
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Washington, D.C. 20231

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Sir:

(1) REAL PARTY IN INTEREST

The real party in interest in this application is the assignee, Taylor Made Golf Company, Inc.

(2) RELATED APPEALS AND INTERFERENCES

No appeal or interference known to Appellants or Appellants' legal representatives will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal.

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320.00 CH Appellants' Brief

Attorney Docket No. 0EKM-080279

(3) STATUS OF CLAIMS

All of the claims, namely, 1-19 are pending in the application and have all been finally rejected by the Examiner. Appellants have appealed the rejection of all of claims 1-19.

(4) STATUS OF AMENDMENTS

Appellants have not filed an amendment after final rejection. Claims 1-19 stand as they were prior to the Examiner's final rejection.

(5) SUMMARY OF INVENTION

The present invention resides in an improved golf club, and in a method for making it. The golf club head has a heel, a toe, and a ball-striking face, with the heel including a hosel that defines a generally cylindrical cavity. A hosel plug, of selected weight, is installed into a lower portion of the hosel cavity, and a shaft is installed into an upper portion of the hosel cavity, at a location above the hosel plug. The hosel plug comprises a *mixture* of a metallic powder and a compliant polymeric material, in prescribed relative proportions, and it is sized to fit snugly into the lower portion of the hosel cavity, where it is secured in place by compression of its compliant polymeric material.

The hosel plug is selected from a plurality of hosel plugs, all having substantially the same size and shape, but each having a different proportion of the metallic powder and the compliant polymeric material so as to have a different weight. The particular hosel plug is selected so that its weight will provide the golf club head with the desired total weight.

Independent claims 1 and 8 define a golf club and a method of making it, respectively, both including a hosel plug comprised of a mixture of a metallic powder

and a compliant polymeric material, in prescribed relative proportions and secured in place by compression of its compliant polymeric material. Independent claim 16 even more particularly defines the invention. Dependent claims 2-7, 9-15 and 17-19 depend from one of the aforementioned independent claims, adding features that further detail the present invention. For example, claims 17-19 defines the hosel plug is secured in place within the hosel cavity by slight compression of its compliant polymeric material and without need of deforming from its substantially cylindrical shape.

(6) ISSUES

- A) Whether claims 1, 3-4, 6, 8-9, 11, 15 and 17-18 are unpatentable over Japanese Patent Application Publication No. JP 9-248355 ("JP '355") in view of U.S. Patent No. 4,220,336 to Kochevar ("Kochevar") and PCT Patent Application Publication No. WO 00/62873 ("WO '873") under 35 U.S.C. § 103 (a).
- B) Whether claims 2 and 13-14 are unpatentable over JP '355 in view Kochevar and WO '873, and in further view of U.S. Patent No. 4,667,963 to Yoneyama ("Yoneyama") and U.S. Patent No. 5,348,302 to Sasamoto et al. ("Sasamoto") under 35 U.S.C. § 103 (a).
- C) Whether claims 5 and 12 are unpatentable over JP '355 in view Kochevar and WO '873, and in further view of U.S. Patent No. 5,452,890 to Bingman ("Bingman") under 35 U.S.C. § 103 (a).
- D) Whether claims 7 and 10 are unpatentable over JP '355 in view Kochevar and WO '873, and in further view of U.S. Patent No. 5,888,148 to Allen ("Allen") under 35 U.S.C. § 103 (a).

- E) Whether claims 16 and 19 are unpatentable over JP '355 in view of Kochevar, WO '873, Yoneyama, Sasamoto, Bingman, and Allen under 35 U.S.C. § 103 (a).

(7) GROUPING OF CLAIMS

With regard to Issue (A), above, claims 3-4, 6, 8-9, 11, 15 and 17-18 stand or fall together.

With regard to Issue (B), above, claims 2 and 13-14 stand or fall together.

With regard to Issue (C), above, claims 5 and 12 stand or fall together.

With regard to Issue (D), above, claims 7 and 10 stand or fall together.

With regard to Issue (E), above, claims 16 and 19 stand or fall together.

(8) ARGUMENT

- A. Claims 1, 3-4, 6, 8-9, 11, 15 and 17-18 Are Not Unpatentable over JP '355 in view Kochevar and WO '873.

In paragraph 2 of the Office Action, claims 1, 3-4, 6, 8-9, 11 and 15 were finally rejected under 35 U.S.C. § 103(a), as allegedly obvious over the JP '355 application in view of the Kochevar patent and the WO '873 application.

In making this rejection the Examiner asserted:

"[JP '355] lacks a plug having a metallic powder, a complaint polymeric material compression fitted into the

hosel cavity by slight compression without need of deforming a plug from its substantial shape, and different plug weight based on the amount of powder mixed into the plug material."

(Office Action, page 2)

Appellants agree with the Examiner regarding the deficiency of JP '355. However, the Examiner attempted to overcome these deficiencies by replacing the plug of JP '355 with a plug formed of a combination of materials from Kochevar and WO '873. Specifically, the Examiner alleged:

"In view of [Kochevar], it would have been obvious to modify the club of [JP '355] to have a plug being a deformable binder with a metal powder . . . In view of [WO '873] it would have been obvious to modify the club of [JP '355] to have a binder being a compliant polymeric material . . ."

(Id., page 3)

The rejection is improper for several reasons. First, the Examiner fails identify, in the prior art, a *specific* understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of the invention to make the combination. See In re Kotzab, 217 F.2d 1365, 1371 (Fed. Cir. 2000).

Rather, the references are used as a catalog of materials to reconstruct the Appellants' invention without proper consideration for the invention as a whole. The Examiner has taken an incremental approach, adding certain items from the cited references only to remove them for another item from the cited references until Appellants' invention has been replicated. The Examiner first replaces the weight (11) from JP '355 with the a plug from Kochevar with a metal powder and deformable binder. Thereafter, the Examiner adds a polymer material from WO '873 as a

polymeric binder, presumably to replace the deformable binder of Kochevar. Id., page 7. However, the Examiner has failed to identify a specific understanding, in the prior art, to motivate one to make a plug comprising a mixture of a powdered metal and a compliant polymeric material, without the benefit of the present invention. As discussed below, the cited references fail to provide such a motivation. For this reason alone, the rejection is improper. O

Second, the rejection combines references without proper consideration for the entire teaching of each reference. See MPEP 2141.03 ("A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983)"). Upon an entire reading of Kochevar and WO '873, it is apparent that not only do they lack any suggestion or motivation for arriving at the present invention, but one skilled in the art would have been deterred from combining in the manner prescribed by the rejection.

The Kochevar patent discloses an extrudable weight capsule (11) having a mass (13) of a putty-like consistency and a sheath of a readily deformable or rupturable material. See col 3, lines 25-50. The mass is formed of a particulate material held together by a binder that permanently deforms, such as beeswax, that serves to bind the material together, and it may further include a sticky or adherent material. Notably, it does not include a compliant polymeric material. To install, the weight capsule is placed in a cavity and is sufficiently compressed to deform, or even rupture, the sheath, causing the mass to conform and even stick to the walls of the cavity. See col. 5, lines 1-3 and 27. Kochevar repeatedly emphasizes the importance of a plug having a putty-like consistency. As asserted by Kochevar, the putty-like consistency allows the weight capsule to conform to the shape of the cavity, and it also allows for fine weight adjustment, by manually tearing off or manually adding portions of the weight composition. Accordingly, use of any binder that would cause it to lose its putty-like consistency is antithetical to the teachings of Kochevar. O

WO '873 discloses a shaft insert (108) positioned in the club shaft to reduce torsional force resulting from the club head. The insert may be a metal core covered by a flexible polymer material, entirely a metal or metal alloy, or entirely a polymer material. *See* pg. 4, lines 21-31. It does not disclose, or even suggest, use of the polymer material as a binder to suspend another material at all, let alone, in a mixture with a metallic powder. The shaft insert is not intended to add weight to the club head, rather it serves an entirely different purpose, namely, to absorb torsional force. Accordingly, WO '873 fails to provide any teaching that would motivate one in the art to make the combination suggested by the Examiner, without the benefit of the present invention.

For these reasons, the obviousness rejection of claims 1 and 8 and their dependent claims 3-4, 6, 9, 11 and 15, is improper. Appellants respectfully urge the Board to reverse this rejection.

B. Claims 2 and 13-14 Are Not Unpatentable over JP '355 in view Kochevar, WO '873, Yoneyama and Sasamoto.

Claims 2 and 13-14, were rejected under 35 U.S.C. § 103(a), as allegedly obvious over the JP '355 application in view of the Kochevar patent and the WO '873 application, and in further view of the Yoneyama patent and the Sasamoto patent.

Claims 2 and 13-14 dependent from independent claims 1 and 8, respectively, adding features that more particularly define the invention, including defining the metallic powder of the hosel plug to comprise tungsten and defining the compliant polymeric material of the hosel plug to comprise nylon.

Both the Yoneyama patent and the Sasamoto patent disclose providing a filler in a cavity behind the club head face. They fail to address any of the shortcomings of JP '355, Kochevar and WO '873 discussed above, such as, teaching a hosel plug comprised of a mixture of a metallic powder and a compliant polymeric

material, in prescribed relative proportions and secured in place by compression of its compliant polymeric material. They fail to provide any teaching, suggestion, or motivation to arrive at a golf club having all of the features of independent claims 1 and 8, let alone claims 2 and 13-14.

For these reasons and the reasons set forth above, the obviousness rejection of claims 2 and 13-14 is improper. Appellants respectfully urge the Board to reverse this rejection.

C. Claims 5 and 12 Are Not Unpatentable over JP '355 in view Kochevar, WO '873 and Bingman.

Claims 5 and 12 were rejected under 35 U.S.C. § 103(a), as allegedly obvious over the JP '355 application in view of the Kochevar patent and the WO '873 application, and in further view of the Bingman patent.

Claims 5 and 12 depend from independent claims 1 and 8, respectively, adding features that more particularly define the invention. They define the hosel's lower cylindrical cavity as having a diameter about 8.5 mm and a length of about 10 mm; and they define the hosel's upper cylindrical cavity as having a diameter of about 9 mm and a length of about 25 mm.

Bingman discloses a metal wood type club having a bore for receiving a club shaft. It does not address any of the shortcomings of JP '355, Kochevar and WO '873 discussed above. As shown FIGS. 2, 3, 5, 9 and 10, the shaft extends to the bottom of the bore. It does not contemplate adding weight within the bore, let alone a hosel plug comprised of a mixture of a metallic powder and a compliant polymeric material, in prescribed relative proportions and secured in place by compression of its compliant polymeric material.

For these reasons and the reasons set forth above, the obviousness rejection of claims 5 and 12 is improper. Appellants respectfully urge the Board to reverse this rejection.

D. Claims 7 and 10 Are Not Unpatentable over JP '355 in view Kochevar, WO '873 and Allen.

Claims 7 and 10 were rejected under 35 U.S.C. § 103(a), as allegedly obvious over the JP '355 application in view of the Kochevar patent and the WO '873 application, and in further view of the Allen patent.

Claims 7 and 10 depend from independent claims 1 and 8, respectively, adding features that more particularly define the invention, including having the hosel plug constitute between about 0.25 % and at least about 3.25 % of the club head's total weight.

The Allen patent discloses a club head having a power shaft that extends along the target line. It does not address any of the shortcomings of JP '355, Kochevar and WO '873 discussed above. It fails provide any teaching, suggestion, or motivation to arrive at a golf club having all of the features of independent claims 1 and 8, let alone claims 7 and 10.

For these reasons and the reasons set forth above, the obviousness rejection of claims 7 and 10 is improper. Appellants respectfully urge the Board to reverse this rejection.

**E. Claims 16 and 19 Are Not Unpatentable over JP '355 in view
Kochevar, WO '873, Yoneyama, Sasamoto, Bingman and Allen.**

Independent claim 16 and 19 were rejected under 35 U.S.C. § 103(a), as allegedly obvious over the JP '355 application, the Kochevar patent, the WO '873 application, the Yoneyama patent, the Sasamoto patent, the Bingman patent, the Allen patent.

Independent claim 16 defines a golf club comprising a head having a heel end, a toe end, and a ball-striking face, wherein the heel end defines a hosel that includes a lower cylindrical cavity having a first diameter and an upper cylindrical cavity having a second diameter, larger than the first diameter. The club includes a substantially cylindrical hosel plug, and a shaft having a lower end sized to fit into, and be secured to, the upper cylindrical cavity of the hosel, above the hosel plug. The hosel plug comprises a mixture of a tungsten powder and nylon, in prescribed relative proportions and is sized to fit snugly into the lower cylindrical cavity of the hosel, where it is secured in place by compression of its compliant polymeric material. Moreover, the hosel plug constitutes between about 0.25 % and at least about 3.25 % of the club head's total weight.

The rejection against claim 16 relies upon no less than six references to arrive at the claimed invention. However, as previously discussed, none of the references provide any teaching, suggestion, or motivation to arrive at a golf club having all of the features of independent claim 1, let alone claim 16.

For this reason and for the reasons set forth above, the obviousness rejection of claim 16 is improper. Appellants respectfully urge the Board to reverse this rejection.

F. Comments re the Examiner's "Response to Arguments"

In paragraph 7 of the Office Action, the Examiner commented on certain arguments made by Appellant in a Office Action filed on or about September 25, 2002.

The Examiner denied the cited references were improperly combined. As support of this denial, the Examiner asserted that "JB '355, Kochevar, and WO '873 all disclose teaching of adding plugs to a lower part of a golf club."

Appellants do not dispute that the identified references all disclose golf clubs utilizing plugs in a lower part of the golf club. However, the cited references all fail to disclose a golf club as defined in Appellants' claims, including a hosel plug of a substantially cylindrical in shape, comprising a mixture of a metallic powder and a compliant polymeric material, in prescribed relative proportions and secured in place by compression of its compliant polymeric material.

Second, in support of the combination, the Examiner stated, "the argument that it is improper use the reference of Kochevar since Kochevar discloses a putty-like consistency is disagreed with. Kochevar was used to only show that it is known to add metallic powder to weight plug."

As discussed above, it is improper to rely on a reference for a limited purpose without further consideration. Rather, the reference must be considered in its entirety, including those portions that teach away or dissuade from the asserted combination.

Third, the Examiner stated, "the argument that it is improper to combine references of WO '873 and Kochevar since it would lose its putty like consistency is disagreed with. Kochevar and WO ' 873 were used to show different binders."

Again, as discussed above, it is improper to rely on a reference for a limited purpose without further consideration. Rather, the reference must be considered in its entirety, including those portions that teach away or dissuade from the asserted combination.

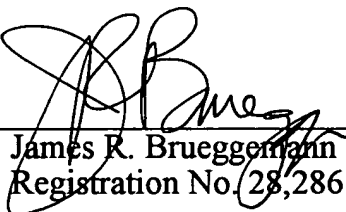
G. CONCLUSION

For the reasons set forth above, the rejections of claims are improper and should be reversed. A decision directing the Examiner to issue a Notice of Allowance is respectfully requested.

Respectfully submitted,

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(9) APPENDIX

CLAIMS

1. A golf club comprising:

a head having a heel end, a toe end, and a ball-striking face, wherein the heel end includes a hosel that defines a generally cylindrical cavity;

a hosel plug sized to fit into a lower end of the hosel cavity; and

5 a shaft having a lower end sized to fit into, and be secured to, the hosel cavity, at a location above the hosel plug;

wherein the hosel plug comprises a mixture of a metallic powder and a compliant polymeric material, in prescribed relative proportions, and wherein the hosel plug is sized to fit snugly into the lower end of the hosel cavity, where it is secured in
10 place by compression of its compliant polymeric material.

2. A golf club as defined in claim 1, wherein:

the metallic powder of the hosel plug comprises tungsten; and

the compliant polymeric material of the hosel plug comprises nylon.

3. A golf club as defined in claim 1, wherein the hosel plug has a substantially cylindrical shape.

4. A golf club as defined in claim 1, wherein:

the hosel cavity includes a lower cylindrical cavity having a first diameter and an upper cylindrical cavity having a second diameter, larger than the first diameter;

5 the hosel plug has a substantially cylindrical shape sized to fit snugly within the hosel's lower cylindrical cavity; and

the lower end of the shaft has a substantially cylindrical shape sized to fit within the hosel's upper cylindrical cavity.

5. A golf club as defined in claim 4, wherein:
the hosel's lower cylindrical cavity has a diameter about 8.5 mm and a
length of about 10 mm; and
the hosel's upper cylindrical cavity has a diameter of about 9 mm and a
length of about 25 mm.

6. A golf club as defined in claim 1, wherein the hosel plug has a
mass in the range of about 0.5 g to at least about 6.5 g.

7. A golf club as defined in claim 1, wherein the hosel plug has a
weight that constitutes between about 0.25 % and at least about 3.25 % of the club
head's total weight.

8. A method for making a golf club head having a desired weight,
comprising:

forming a non-final golf club head having a heel end, a toe end, and a
ball-striking face, wherein the heel end includes a hosel that defines a substantially
cylindrical cavity having a lower portion and an upper portion;

providing a plurality of hosel plugs, each comprising a mixture of a
metallic powder and a compliant polymeric material, in prescribed relative
proportions, wherein the plurality of hosel plugs all have substantially the same size
and shape and each are dimensioned to fit snugly into the lower portion of the
substantially cylindrical cavity of the hosel, where it is secured in place by
compression of its compliant polymeric material, and wherein the plurality of hosel
plugs together have a range of weights;

selecting a particular one of the plurality of hosel plugs having a weight
that will combine with the non-final golf club head to provide a desired total weight;
and

installing the selected hosel plug into the lower portion of the
substantially cylindrical cavity of the hosel, to produce a final golf club head having
the desired weight.

9. A method as defined in claim 8, wherein the plurality of hosel plugs range in mass from about 0.5 g to at least about 6.5 g.

10. A method as defined in claim 8, wherein the plurality of hosel plugs have weights that range from about 0.25 % to at least about 3.25 % of the combined weight of the plug and non-final golf club head.

11. A method as defined in claim 8, wherein:
the lower portion of the cylindrical cavity of the hosel formed in the step of forming has a first diameter and the upper portion of the cylindrical cavity formed in the step of forming has a second diameter, larger than the first diameter; and
5 the plurality of hosel plugs are each dimensioned to fit snugly within, and to extend over the entire length of, the lower portion of the cylindrical cavity of the hosel.

12. A method as defined in claim 11, wherein the step of forming includes:
configuring the lower portion of the cylindrical cavity to have a diameter about 8.5 mm and a length of about 10 mm; and
5 configuring the upper portion of the cylindrical cavity to have a diameter of about 9 mm and a length of about 25 mm.

13. A method as defined in claim 8, wherein:
the metallic powder of each of the plurality of hosel plugs provided in the step of providing comprises tungsten; and
the compliant polymeric material of each of the plurality of hosel plugs
5 provided in the step of providing comprises nylon.

14. A method as defined in claim 13, wherein the plurality of hosel plugs comprise tungsten in weight percentages ranging from about 0 % to about 96 %.

15. A method as defined in claim 8, wherein the plurality of hosel plugs all have a substantially cylindrical shape.

16. A golf club comprising:

a head having a heel end, a toe end, and a ball-striking face, wherein the heel end defines a hosel that includes a lower cylindrical cavity having a first diameter and an upper cylindrical cavity having a second diameter, larger than the first diameter;

a substantially cylindrical hosel plug; and

a shaft having a lower end sized to fit into, and be secured to, the upper cylindrical cavity of the hosel, above the hosel plug;

wherein the hosel plug comprises a mixture of a tungsten powder and nylon, in prescribed relative proportions;

wherein the hosel plug is sized to fit snugly into the lower cylindrical cavity of the hosel, where it is secured in place by compression of its compliant polymeric material;

and wherein the hosel plug has a weight that constitutes between about 0.25 % and at least about 3.25 % of the club head's total weight.

17. A golf club as defined in claim 1, wherein the hosel plug is secured in place within the hosel cavity by slight compression of its compliant polymeric material and without need of deforming from its substantially cylindrical shape.

18. A method as defined in claim 8, wherein the hosel plug is secured in place within the hosel cavity by slight compression of its compliant polymeric material and without need of deforming from its substantially cylindrical shape.

19. A golf club as defined in claim 16, wherein the hosel plug is secured in place within the hosel cavity by slight compression of its compliant

polymeric material and without need of deforming from its substantially cylindrical shape.